

PATENT ABSTRACTS OF JAPAN

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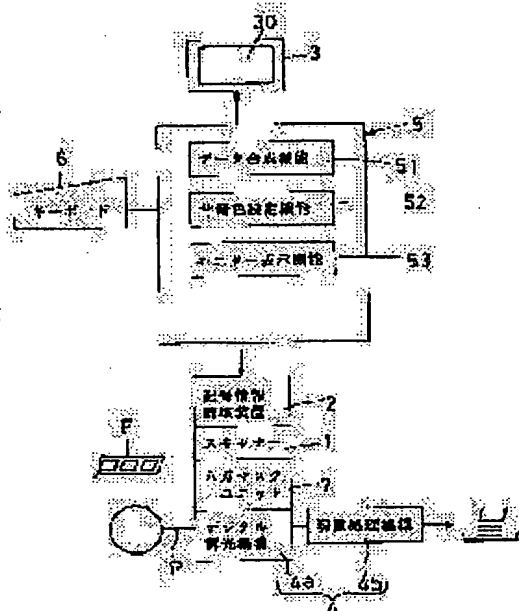
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(54) PHOTOGRAPHIC PROCESSING DEVICE

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a photographic processing device capable of printing a picture where information such as a character or a graphic printed in an image can be clearly recognized without being influenced by the hue or the density of the image.

SOLUTION: This photographic processing device where image data is printed on photographic paper is equipped with a data synthesizing function 51 for synthesizing various information data expressed through the character, background data such as the character expressed by the information data and image data read by an image reading mechanism, a background color setting function 52 for setting the background of the information such as the character synthesized in the image in a different color from the color of the character, and a digital exposure mechanism 4a by which the data synthesized by the synthesizing function is printed on the photographic paper.



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5 [What is Claimed is:]

[Claim 1] A photographic processing device performing printing process for printing image data read by an image reading system on photographic paper, the photographic processing device comprising:

10 a data composition function for compositing various information data expressed with characters or the like, a background data of the characters or the like which is expressed by the information data, and the image data read by the image reading system;

15 a background color setting function for setting the color of the background of the information, such as the characters, composited in the image to a color different from the color of the characters; and

20 a digital exposure system for printing the data composited by the composition function on the photographic paper.

[Detailed Description of the Invention]

[Field of the Invention]

25 The present invention relates to a photographic

processing device for printing image data on the photographic paper.

[Prior Arts]

5 A photographic processing device of this kind generally includes in the device body, a scanner as an image reading system for reading, for example, an image of a developed film, an image print processing system for printing the image on photographic paper based on the image data read by the scanner, 10 and a front print processing system for printing the information, such as characters or a diagram, onto the image printed by the image print processing system. The image of the developed film read by the scanner is printed by the aforesaid image print processing system, and the characters or diagram 15 is printed by the front print processing system so as to be superimposed on a part of the image printed by the image print processing system (called "front print", hereinafter), thereby a picture is finished.

20 [Subjects To Be Solved By the Invention]

In the aforesaid photographic processing device, characters or the like are superimposed on an image by the front print processing system using an LED to be printed. Accordingly, for example, if the density of the image around 25 the characters which are printed by the front print processing

system is high, the front print part of the printed photograph cannot be recognized, and for example, if the front print is performed with a blue LED and the color of the image in the position of the front print is also blue shade, the front print merges into the image and cannot be recognized in the same way as described above.

The present invention has been developed considering the aforementioned conditions, and aims to provide a photographic processing device capable of printing a picture in which information such as characters or a graphic printed in an image is able to be clearly recognized without being influenced by the aforesaid image.

[Method for Solving the Subjects]

To accomplish the aforementioned objects, the invention described in claim 1 is a photographic processing device performing printing process for printing image data read by an image reading system on photographic paper, the photographic processing device having a data composition function for compositing various information data expressed with characters or the like, a background data of the characters or the like which is expressed by the information data, and the image data read by the image reading system; a background color setting function for setting the color of the background of the information, such as the characters, composited in the image

to a color different from the color of the characters; and a digital exposure system for printing the data composited by the composition function on the photographic paper.

5 [Preferred Embodiment of the Invention]

An embodiment of the photographic processing device relating to the present invention is described below referring to the drawings.

Fig. 1 schematically shows one embodiment of the photographic processing device of the present invention. The photographic processing device basically has a scanner 1 as an image reading system for reading the image of each frame of a developed film F, a recording information reading device 2 for reading the information recorded on the developed film F, a display device 3 for displaying the image, various information or the like read by the scanner 1 and the recording information reading device on a color monitor screen 30, a printer 4 for printing the image, various information or the like read by the scanner 1 and the recording information reading device 2 on photographic paper P, a control device 5 for controlling each of the constitutional members 1, 2, 3 and 4, and a keyboard 6 as an input means for inputting various information and the like to the control device 5.

The printer 4 includes a digital exposure system 4a for printing the image of each frame of the film F read by the

scanner 1 on the photographic paper P, and a development processing system 4b for performing the development process of the photographic paper P which is exposed by the digital exposure system 4a. The printer 4 prints each image read by the scanner 1 on the photographic paper P, and develops the photographic paper P by the development processing system 4b to finish printing.

The digital exposure system 4a has a PLZT head in a line shape so as to perform line exposure to the photographic paper

10 P.

The control device 5 has a microcomputer, and structures a data composite function 51 for compositing various information data expressed with characters, a graphic, mark or the like, a background data as the background of the

15 characters, graphic, mark or the like, and the image data read by the scanner 1 on the program of the aforesaid microcomputer, a background color setting function 52 for setting the color of the background of the information, such as the characters, to a color different from the color of the aforesaid

20 characters or the like, and a monitor display function 53 for displaying on the color monitor screen 30 of the display device 3 the image read by the scanner 1, various information read by the recording information reading device 2 and various information inputted from the keyboard 6.

25 In the embodiment shown in the figure, various

information data expressed with the characters, graphic, mark or the like includes the information read from the developed film F by the recording information reading device 2, the information directly inputted by an operator with the keyboard 6, and the information stored in the storing function of the microcomputer constituting the control device in advance. In printing these information on the photographic paper P, the characters, diagram, mark or the like is printed in a desired font, size and color, by the key operation of the keyboard by the operator.

The aforementioned background data is stored in the storing part of the microcomputer in advance. In the illustrated embodiment, a background B1 along the outline of each character and the like as shown in Fig. 2, and oblong and band-like backgrounds B2 and B3 as shown in Fig. 3 and Fig. 4 are stored in the aforesaid storing part in advance, and the background printed on the photographic paper P and the position and size thereof are able to be set by the key operation of the keyboard 6 by the operator.

20 The background color setting function 52 automatically set to a color different from the color of the characters or the like in printing, accompanying that the color of the information, such as the characters, in printing is set.

Reference number 7 in the figure shows a negative mask unit.

In the aforementioned photographic processing device, the kind, arrangement position and size of the backgrounds B1 to B3 and the color of the information, such as characters, in printing are set by the operation of the keyboard 6, and the developed film F is set to the negative mask unit 7 to start the print process. The image of each frame of the developed film F set in the negative mask unit 7 is read by the scanner 1 accompanying therewith, and various information written on the developed film F is read by the recording information reading device 2.

The image S read by the scanner 1, the characters T as the information which is to be printed on the image S and the backgrounds of the characters B1 to B3 and the like are displayed sequentially on the color monitor screen 30 of the display device 3. And at the same time, the image S, the information, such as the characters T, and the backgrounds thereof B1 to B3 which are displayed on the monitor screen 30 are exposed on the photographic paper P by the digital exposure system 4a, and developed by the development processing system 4b to complete the desired prints P1 to P3 as shown in Fig. 2 to Fig. 4, respectively.

In this way, the printed information, such as the characters T, is able to be clearly discriminated due to the backgrounds B1 to B3 printed in a different color from the color of the characters T, and is never influenced by the

density or hue of the printed image S.

In the aforementioned embodiment, the scanner 1 for reading the image of the developed film is used as the image reading system. However, the present invention is not limited thereto, and, for example, a reading device for reading photographed data photographed by a digital camera or the like may be used.

[Effects of the Invention]

As described above, in the present invention, the photographic processing device, performing the printing process for printing the image data read by the image reading system on the photographic paper, has the data composition function for compositing various information data expressed with characters or the like, the background data of the aforesaid information, and the image data read by the image reading system; a background color setting function for setting the color of the background of the information, such as the characters, composited in the image to a color different from the color in which the information is expressed; and a digital exposure system for printing the data composited by the composition function on the photographic paper. With such an arrangement, the information, such as characters, positioned in the printed image is able to be accurately and clearly recognized without being influenced by

the density or hue of the image, because the background is printed in a different color from the color of the characters or the like.

5 [Brief Description of the Drawings]

Fig. 1 is a schematic constitutional view of a photographic processing device relating to the present invention;

Fig. 2 is an illustration showing an example of the picture printed by the photographic processing device of the present invention;

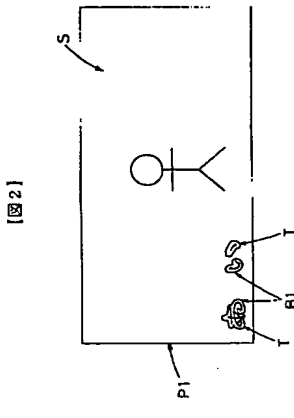
Fig. 3 is an illustration showing another example the picture printed by the photographic processing device of the present invention; and

15 Fig. 4 is an illustration showing still another example the picture printed by the photographic processing device of the present invention.

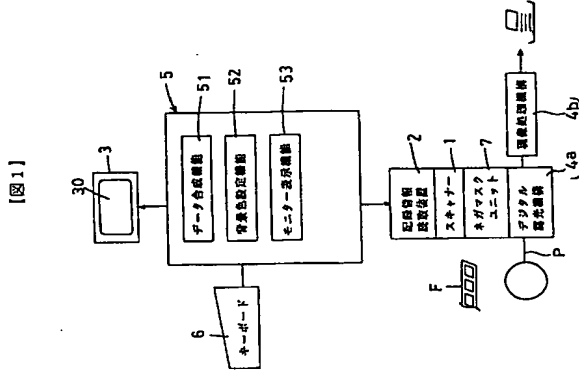
[Description of the References]

20 1 Scanner (image reading system)
4a Digital exposure system
51 Data composition function
52 Background color setting function
P Photographic paper

【図2】



【図1】



フロントページの続き

F クラーム(参考) 2H106 AA82 AB04 BA55 BA72 BA91
BH00
2H109 AA01 BA03
5C076 AA14 AA16 AA36 AA33

は、該文字T等の色とは異なる色でプリントされる背景B1〜B3により明瞭に認識することが出来、プリントされた画像Sの傾度や色合いに左右されることがないのである。

【0018】以上の実施形態では、画像取得装置として現像済フィルムFの画像を読み取るスキャナー1を用いたが、これに限定されるものではなく、例えばデジタルカメラなどで撮影した撮影データを組み取る読取装置を用いてもよい。

【0019】【発明の効果】以上のごとく本発明によれば、画像取得装置で読み取った画像データを印刷紙にプリント処理するようにした写真処理装置において、文字等で表現される各種情報データと前記情報の背景データと画像読み取り装置で読み取った画像データとを合成するデータ合成装置と、画像中に合成される文字等の情報の背景色、該背景が表現される色とは異なる色に設定することにより、プリントされた画像中に位置する文字等の情報は、画像の傾度や色合いに何ら左右されることがなく、該文字等の色とは異なる色でプリントされる背景により正確且つ明瞭に認識することが出来るに至ったのである。

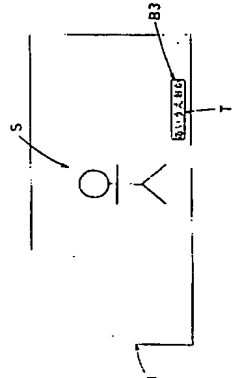
【図面の簡単な説明】

【図1】本発明にかかる写真処理装置の概略構成図。
【図2】本発明の写真処理装置でプリントされた写真の一例を示す説明図。

【図3】本発明の写真処理装置でプリントされた写真の他例を示す説明図。
【図4】本発明の写真処理装置でプリントされた写真の他例を示す説明図。

- 【符号の説明】
- 1 スキャナー（画像取得装置）
 - 4a デジタル露光機構
 - 51 データ合成機能
 - 52 背景色設定機能
 - P 印刷紙

【図4】



記憶させている情報とから成り、またこれら情報を印刷紙Pに印字する際、オペレータのキーボード6によるキー操作で、所望のフォントと大きさで色で、文字・図形・記号等がプリントされるようにしている。

【0012】また前記の背景データにあってはマイクログコンピュータの記憶部に予め記憶させているのであって、図3に示す実施形態では、図3に示すごとく、各文字等の輪郭に沿う背景B1と、図3及び図4に示すごとく、傾斜とした帯状の背景B2・B3等を前記記憶部に予め記憶させており、オペレータのキーボード6によるキー操作で、印刷紙Pにプリントされる背景とその位置並びに大きさを設定出来るようにしている。

【0013】一方、背景色設定機能52は、プリント時における文字等の情報の色が設定されるに伴って、このプリント時の文字等の色とは異なる色に自動的に設定されるように構成している。

【0014】尚、図中7は、メガマスクユニットを示す。

【0015】以上の写真処理装置にあっては、まず、キーボード6のキー操作により、背景B1〜B3の種類、配置位置及びその大きさ、文字等の情報のプリント時における背景色を設定すると共に、現像済フィルムFをメガマスクユニット7にセットして、プリント処理を開始するのであって、これに伴い、メガマスクユニット7にセットされた現像済フィルムFの各コマの画像が、スキャナー1で読み取られると共に、該現像済フィルムFに書き込まれている各種情報が読取情報読取装置2で読み取られるのである。

【0016】そしてスキャナー1で読み取られた画像Sと、該画像Sに印字したい情報としての文字T等と、文字等の背景B1〜B3とが、表示装置3のカラーモニタ画面30に順次表示されると共に、かかるモニタ画面30に表示された画像Sと文字T等の情報とその背景B1〜B3とがデジタル露光機構4aで印刷紙Pに露光された後、現像処理機構4bで現像処理され、図2乃至図4に示すような所望のプリントP1〜P3が出来上がるのである。

【0017】斯くて、プリントされた文字T等の情報

【図3】

